



Missouri S&T Magazine, February 1965

Miner Alumni Association

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MSM

FEBRUARY 1965

Alumnus

UNIVERSITY OF MISSOURI AT ROLLA



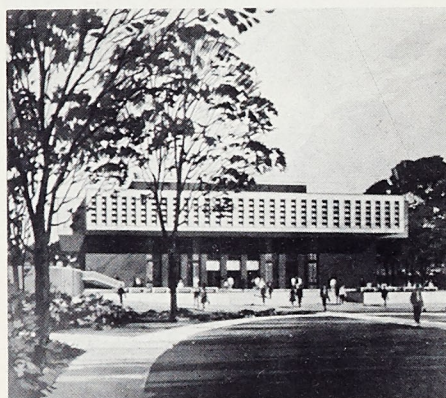
Architect's Drawing of \$2,250,000 New Library

MSM *Alumnus*

Published by the
MSM Alumni Association
University of Missouri at Rolla
Rolla, Missouri

Volume 39
FEBRUARY 1965
Number 1

ON THE COVER



ARCHITECT'S DRAWING OF NEW LIBRARY BUILDING

The new library, badly needed addition to our campus, is now a reality. Construction is expected to start in the very near future. This will relieve the present crowded and unsatisfactory library and give our school a basic facility as needed in a great university.

Issued bi-monthly in the interest of the graduates and former students of the Missouri School of Mines and Metallurgy and the University of Missouri at Rolla. Subscription price, \$1.50, included in Alumni Dues. Entered as second-class matter October 27, 1926, at Post Office at Rolla, Missouri under the Act of March 3, 1897.

MSM Alumni Association

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Term Expires

President	James W. Stephens '47	Missouri Public Service Co.	1965
		10700 East 50 Highway	
		Kansas City 38, Missouri	
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		7100 Roberts	
		Kansas City 25, Missouri	
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		Downey, California	
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		Missouri School of Mines	
		Rolla, Missouri	
Executive Secretary	Francis C. Edwards	MSM Alumni Association	
Editor, "MSM ALUMNUS"		Old Metallurgy Building	
		Rolla, Missouri	

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Gilbert F. Metz '14	816 Cypress Road, Vero Beach, Florida	1965
Rex Z. Williams '31	Rolla State Bank, Rolla, Missouri	1965

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Area No.	Director	States and Provinces Embraced	Term Expires
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	Minneapolis, Long Island, New York	Province of Quebec	
2	J. O. Ferrell '40	S. Ark., N. C., S. C., La., Miss.,	1966
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	Longview, Texas		
3	O. W. Kamper '35	Pennsylvania, W. Va., Ohio, W. Pa.,	1966
	608 Villavista, Pittsburgh 34, Pennsylvania	Ky., Tenn., Ind. (Except	
		Chicago Industrial Area)	
4	Frank C. Appleyard '37	N. Ill., Chicago Industrial Area	1966
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	5 Sappington Acres Drive		
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7	Robert M. Brackbill '42	Texas, Arizona, New Mexico	1967
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8	F. W. Heiser '39	Ida., Montana, N. D., S. D.,	1966
	16 Viking Drive	Wyo., Colo., Nev., Utah,	
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9	William B. Fletcher '34	Alaska, Washington, Ore.,	1967
	12081 Smallwood	California, Hawaii	
	Downey, California		

New Library

The new library building proposed for UMR will be square, 4 stories high, 132 feet on a side, except for the top floor which is 152 feet. It will contain about 76,000 square feet gross area. This compares to 51,296 square feet for the Electrical Engineering Building and 49,098 square feet for the Civil Engineering Building.

The total cost including furnishings, is expected to be \$2,250,000 of which \$1,500,000 was appropriated by the Missouri Legislature and \$750,000 was provided by matching Federal funds.

It will provide storage for about 400,000 volumes and will have reader stations for about 800 people, including 25 individual faculty offices. It will be completely air-conditioned.

Large Spring Enrollment

The largest spring semester enrollment in the history of UMR, 3,601, is an increase of about six per cent over last year's enrollment. This includes 3,525 on the Rolla campus and 76 at the St. Louis Graduate Resident Center, which is in its first year of operation.

Increases were noted at both the freshman and graduate levels, with the largest growth in the freshman class. This class totals 1,021, compared with 803 in the spring semester class last year. The total graduate enrollment is

School Ranks High In Degrees Granted

More civil and metallurgical engineers graduate with bachelor's degrees from the University of Missouri at Rolla than from any other engineering school in the country.

The civil engineering undergraduate department ranks first among the 163 departments in the U. S. granting B. S. degrees, and metallurgical engineering is first among 53. Two other departments, mining engineering and ceramic engineering, rank among the top three nation-wide with mining engineering second of 28 and ceramic engineering third of 12. In addition, the mechanical engineering department has the fifth largest number of graduates and chemical engineering sixth. Electrical engineering ranks 15th.

505, including 74 at the St. Louis Center, compared with 411 at this time last year. Of these, 53 are working toward the Ph.D. Degree.

The three largest departments are mechanical engineering with 844, electrical engineering with 774 and civil engineering with 713. Civil engineering has the largest number of graduate students, with 87. Mechanical engineering has 72, and chemical engineering and electrical engineering rank third and fourth in the number of graduate students, with 51 and 48 respectively.

The reports of the ranking schools was reported by the Department of Health, Education and Welfare, based on 1962 enrollments, the latest date for which national ratings have been compiled.

According to the HEW report, the Rolla campus also ranks high in the number of master's degrees granted in several fields, ranking second among 15 mining engineering departments and eleventh of 39 in metallurgical engineering. The civil engineering department was 26th among 102 schools offering master's degree work. The graduate degrees at both the masters and Ph. D. levels are growing rapidly.

Admission Policies Listed

Robert B. Lewis, Registrar and director of admissions has announced admission policies and dates for closing of enrollment for new students at UMR.

Students wishing to enroll for the first time for summer school must apply for admission by May 1. New student applications will be taken for the fall semester until August 1, and for the winter semester until Dec. 15.

Graduates of fully accredited high schools who present the required units, rank in the upper two-thirds of their graduating class and are recommended for admission, will be admitted without examination. However, all freshman students are required to take the Freshman

PRESIDENT'S COLUMN

With this issue of the MSM Alumnus, I'm pleased to report definite and positive progress in Centennial planning.

Specific goals aimed at achieving a top standard of all-around excellence for the University of Missouri at Rolla have been established. These goals will be met through development of a program covering many phases of institutional activity involving the advancement of student, faculty, and alumni interests.

Under the personal direction of Chancellor Baker, a campus organization has been effected which I feel in-

dures success in the building of a sound, reasonable and necessary program for continuing UMR in the forefront of institutions of its kind for years to come.

The Executive group of your Centennial Committee is in close contact with the campus organization and is fully aware of the efforts being exerted. Goals, methods of procedure, and initial time tables of development have the approval of the Executive Committee.

A feature of this year's Commencement Exercises will be a presentation to the Alumni as a whole of the plan-

ned over-all Centennial program. This presentation will be as specific and final in nature as possible to include itemized factors for development and expansion, price tags for each item and priorities of accomplishment. Your views and comments on the program will be sought.

We look forward hopefully to a maximum Alumni turnout at Commencement, 1965. Your interests and the future of your school are at stake.

James W. Stephens, President
MSM Alumni Association

Placement Tests before completing enrollment.

Students in the top third of their class may apply at any time during their senior year in high school, those ranking in middle third of their class may apply and be accepted any time during their final high school semester.

Students in the lower third of their class may submit applications during the final semester of their senior year. However, placement tests must be taken before consideration is given for acceptance, and additional tests and summer school of at least six hours of "C" or better may be required before admission is granted. Students ranking in the lowest third, if admitted, will automatically be on academic probation for their first semester at UMR.

Further information concerning the UMR may be obtained by writing the director of admissions, University of Missouri at Rolla, Rolla, Missouri, 65401.

Materials Research Center Established

The old Buehler Building at the corner of 9th and Rolla Streets has a new designation - Materials Research Center - and a new function to fill in our community as one of the facilities of UMR.

The Materials Research Center here is part of the Space Sciences Research Center of the University, one of four organized research divisions of the University system.

Funds for the Space Sciences research program were appropriated by the last general assembly, with \$2 million appropriated for capital funds and \$250,000 for biennium operation.

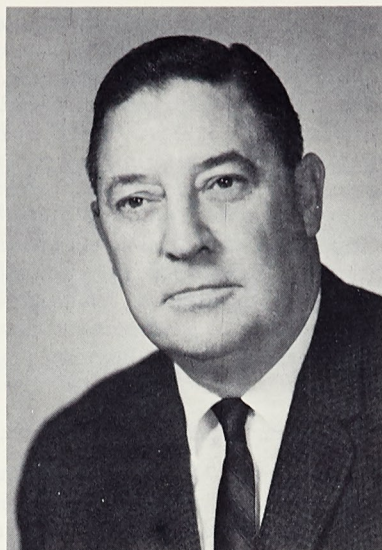
This is a unique program for a state university in that the state, not federal grants, established the initial funding for the program.

Twenty research projects are underway in the new Center, all active or to be started this year, all studies of materials.

The senior staff of the Center consists of four members: Dr. Martin E. Straumanis, professor of metallurgical engineering and research professor of

New Director of Information

Brig. Gen. L. R. Cochran, U.S. Army (Ret.) was named director of public information and assumed his duties on January 1, 1965. Gen. Cochran will also serve as executive secretary of the Centennial Committee and will be in



Brig. Gen. L. R. Cochran

charge of coordinating centennial planning and administration of policies established by the Centennial Committee. UMR will observe its centennial in 1970.

General Cochran is a graduate of the U.S. Military Academy, West Point, New York, U.S. Army Infantry School, the Tank School, Command and General Staff College, Armed Forces Staff

College, and the Army War College. He also attended the General Officers Command Management Course at Fort Belvoir, Va., and the Strategic Intelligence School, Washington, D. C. For three years he was an instructor at the Command and General Staff College, Fort Leavenworth, Kansas.

General Cochran's 30-year commissioned Army career was devoted mainly to command and staff functions, with fiscal, logistic and property management responsibilities. He served as assistant division commander and acting division commander of the 24th division in Korea. He was later deputy commanding general and chief of staff of the United States Army, Japan. At various times he has served on the Army General Staff and with both Joint and Combined Staffs including NATO. Overseas assignments included duty in the European theater during World War II and later with NATO in Italy, and in Korea and Japan from 1955 to 1959.

General Cochran holds the Legion of Merit (with two Oak Leaf Clusters), Commendation Medal, European-African-Middle Eastern Campaign Medal, American Defense Service Medal, National Defense Service Medal, and the Order of Military Merit ULCHI with Silver Star (Republic of Korea).

General and Mrs. Cochran live at 18 Oak Park Apartments, 1300 Oak Street in Rolla.

materials; Dr. William J. James, professor of Chemistry and research professor of materials; Dr. Gordon Lewis, associate professor of ceramic engineering and associate research professor of materials; and Dr. Otto H. Hill, professor of physics and research professor of materials. There are 10 graduate students working at the Center.

The Center has established a working arrangement with Avco Corporation, Tulsa Division, which has assigned James Wolfe, a member of their staff, as liaison officer here. Wolfe is also a graduate student in metallurgy.

It is estimated that the Center will acquire about \$180,000 worth of research equipment before the end of the current fiscal year. A growth in the

staff of the Center is anticipated also. By this time next year, there should be a minimum of eight additional faculty members serving as associate staff members in the Center, and graduate student participation should increase to 30.

Dr. T. J. Planje is chairman of the University Space Sciences Research Committee.

Geologist Visits Campus

Dr. Enrico Marchesini, internationally known geologist visited UMR March 15 to 19 under the sponsorship of the American Geological Institute, which represents all of the earth sci-

ence professional societies in the nation.

His visit was arranged through the auspices of the Visiting International Scientist Program supported by the National Science Foundation.

Dr. Marchesini is best known for his work in airphoto geologic interpretation in the exploration for oil, especially in Africa. He has worked in North, East, West and Equatorial Africa, and in Turkey, Italy, Spain and Switzerland.

In addition to his specialty of photogeology, he has also been interested in statistical approaches to the study of evolution. At present, he combines teaching at the University of Florence with research in photogeology.

Honored by IEEE

Robert H. Nau, professor of electrical engineering at UMR, has been named to the grade of fellow by the board of directors of the Institute of Electrical and Electronic Engineers.

The grade of fellow is the highest in the 150,000 member IEEE and is awarded by invitation only. Prof. Nau's citation is "For Contributions to Engineering Education."

Recognition of the awards was made by the president of IEEE at the International Convention in New York City. Presentations of the fellow award certificates will be made at the Past Chair-



Robert H. Nau

man's meeting of the St. Louis Section of IEEE in April.

William J. Roa, Jr., head electrical engineer of Sverdrup and Parcel and Associates, Inc., and Prof. Nau were the only men so honored this year from the St. Louis Section, which comprises 82 Missouri and Illinois counties.

Professor Emeritus I. H. Lovett, former chairman of the electrical engineering department, had previously received this honor.

Dr. Strunk Gives Paper

Dr. Mailand R. Strunk, chairman of the chemical engineering department at UMR presented a paper entitled "The Determination of Eddy Thermal Diffusives for Air Flowing in a Circular Conduit" at the 55th national meeting of the American Institute of Chemical Engineers in Houston, Texas in February. This paper was the result of research done in the Ch. E. Department of the University by Dr. Strunk and Dr. F. F. Tao who is presently with the Esso Research and Engineering Company of Linden, N.J. The paper was prepared as Dr. Tao's thesis.

Dr. Strunk has also been invited to participate in the faculty visitation program of the Humble Oil and Refining Company of Baton Rouge, La.

Receives DuPont Grant

Dr. Robert M. Wellek, asst. professor of chemical engineering at UMR is the recipient of a grant of \$2,200 from DuPont for summer research work in chemical engineering. His research will be in the area of mass transfer, and will extend work already in progress.

The grant to Dr. Wellek is one of 45 summer research grants in 39 universities made by the DuPont Company to enable younger staff members to advance their own scholarly development during the summer. The grant pays a stipend to the recipient and helps to support his program.

Dr. Wellek, who joined the staff of UMR in 1962, received both his B.S. and Ph.D. degrees in chemical engineering at the Ill. Institute of Technology.

Ceramics Research Project

The Chance Foundation, Centralia has made a grant of \$2,150 for the purchase of a large field photostress meter and vacuum oven to continue photoelastic stress analysis studies of high tension electric insulators. The grant is to Dr. Delbert E. Day, asst. prof. of ceramic engineering and Dr. Peter G. Hansen, associate prof. of mechanics who are in charge of the research project.

The A.B. Chance Co., Centralia, is one of the leading manufacturers of electric transmission switch gear and pole hardware in the country. These studies will assist in the development of high voltage electrical porcelain insulators particularly needed in the transmission of electrical power on the new very high voltage transmission lines. UMR is the only college in the state teaching ceramic engineering, and the UMR ceramic engineering department is the third largest in the country.

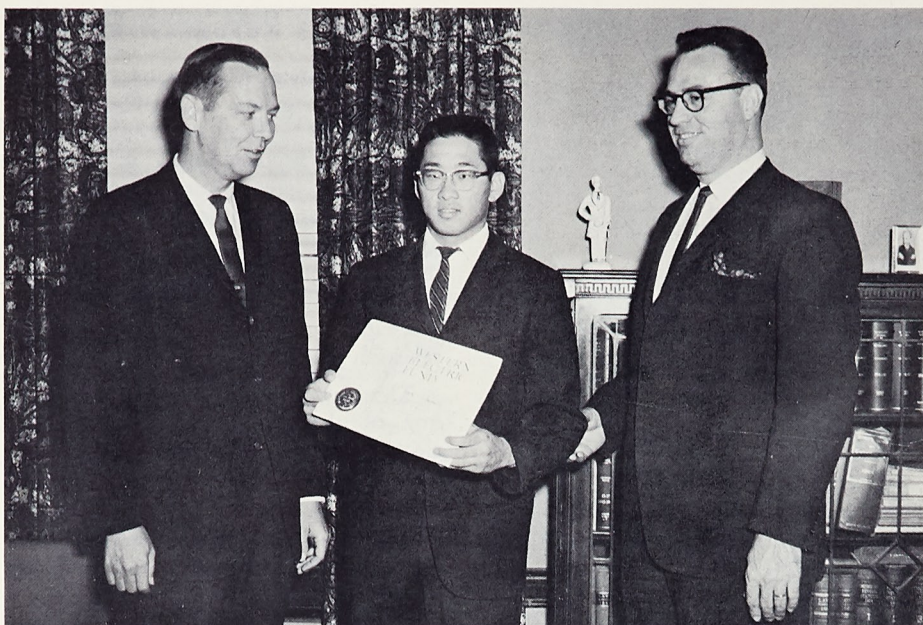
Institute for Teachers

A grant of \$98,750 has been awarded UMR by the National Science Foundation for a summer institute for high school teachers of chemistry, physics and mathematics. This is the 8th consecutive year UMR has been selected to hold the institute. 75 teachers will be selected to attend the institute, which will be held from June 7 to July 31. Participants will receive a stipend and allowances.

The program of courses, seminars, lectures and informal discussions is designed to vitalize the teaching of chemistry, mathematics and physics in high school. Completed institute work may be used toward the degree of master of science for teachers.

Courses to be offered include Advanced General Chemistry; Organic Chemistry; Modern Mathematics; Applied Mathematics; Statistics; Intermediate General Physics; Electricity and Magnetism; Introduction to the Operating Principle of a Nuclear Reactor for Secondary School Teachers. Dr. H. Q. Fuller, chairman of the Physics Department is director of the Institute.

3,000



A Certificate of Recognition is presented scholarship recipient Edwin Shimamoto by Western Electric Company representatives. L. to R. Mr. R. P. Hall, Western Electric College Recruiting, Edwin Shimamoto and Dr. Merl Baker, Chancellor, UMR.

Western Electric Scholarship Awarded

The Western Electric Fund Scholarship at UMR was awarded to an Electrical Engineering Sophomore, Edwin Shimamoto, for the second consecutive year. Shimamoto, son of Mr. and Mrs. George N. Shimamoto, 6042 Fyler, St. Louis, Missouri is an outstanding student with a 3.61 cumulative grade average.

He is the third member of his family to attend college here; one brother has

been graduated and another is a top-ranking student in the Chemical Engineering Department.

Shimamoto entered college on a Curator's Award, has consistently appeared on the Dean's Honor List and is a member of Phi Eta Sigma Honor Fraternity. He is a member of the Intercollegiate Knights, has been on the school track team and is on the Board of Controls of the Engineers Club.

Donald Dean Heads Civil Department At State University of North Carolina

Dr. Donald L. Dean '49, has received an appointment as head of the Civil Engineering Department, State University of North Carolina at Raleigh. As head of the Civil Engineering Department at State, Dr. Dean is in charge of a department of 600 undergraduates and 60 graduate students. He assumed his duties in September, 1964.

Dr. Dean was Chairman of the Civil Engineering Department at the University of Delaware, since 1960, prior to his new appointment. The value of

sponsored research in the C. E. department at State totals approximately a quarter of a million dollars annually.

Dr. Dean earned his B.S. and M.S. degrees at Rolla and his Ph.D. at the University of Michigan. He was an honor student at both schools with a straight A average.

Donald taught at MSM from 1949 to 1955 and at the University of Kansas 1955 and 1956. He taught and served as Assistant Dean of Engineering and Architecture at Kansas from

June 1956 to July 1958. He assumed supervision of graduate thesis work in addition to his teaching duties at Kansas from 1958 to 1960.

Dean's industrial experience includes bridge design work for the Missouri Highway Department, building design work for a St. Louis contractor and consulting experience on towers, framed and shell structures.

Among research programs on which Dean has served as principal investigator, was a \$26,000 National Science Foundation project on structural lattices.

He is a member of the National Society of Professional Engineers for whom he served as a director in Kansas and Delaware; American Society of Civil Engineers and is a member of the executive committee; American Society of Engineering Education; and International Association for Bridge and Structural Engineering. He has published widely and is a member of many honor societies.

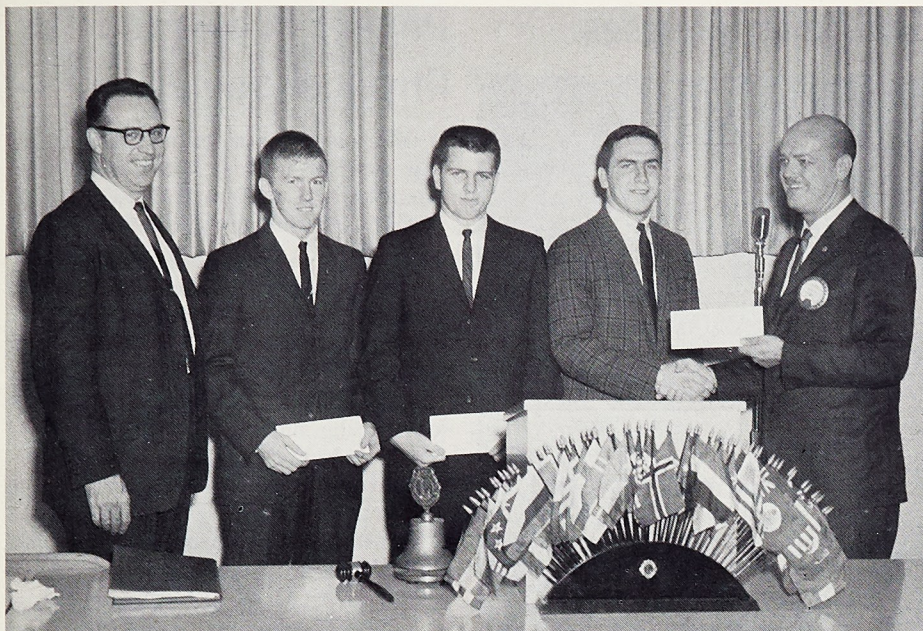
A veteran of World War II Navy service, Dean is married. He and Jewell have a nine-year-old son, Philip Douglas Dean.

At Space Science Meeting

Dr. Elbert Francis, assistant professor of mechanical engineering at UMR, presented a paper at the second Aerospace Science meeting of the American Institute of Aeronautics and Astronautics in New York City, January 24-28.

Dr. Francis' paper is entitled "Radiant Heat Transfer Analysis of Isothermal Diathermanous Coatings on a Conductor." Co-author of the paper is Tom J. Love, Jr. of the University of Oklahoma.

1965
Fall Homecoming
October 8 - 9



Presentation of scholarships to Rolla Lions Club Award winners. L. to R. Chancellor Merl Baker; John L. Hedrick; Robert E. Yates; Michael C. Fridley; Marty Riden, President, Lions Club.

Three Freshmen Get Lions Club Awards

The Rolla Lions Club made their annual presentation of scholarship awards on December 17, 1964 to three UMR first semester freshmen who had maintained above average academic records and have participated actively in the athletic program of the university. The students so honored are: *Michael Fridley*, a Civil Engineering major, the son of Ellis L. Fridley, 2203 St. Richard Court, St. Charles, Missouri. He is a pledge of Kappa Sigma Fraternity and earned his athletic letter in football this past season, as he was a regular starter in every game.

John Hedrick, a Physics major, is the son of Dwight S. Hedrick, 11888 Craig View, St. Louis, Mo. Hedrick was a starting defensive halfback on the football squad until he was sidelined with an injury, but is considered a good prospect for next year's team. He has pledged Kappa Sigma Fraternity.

Robert Yates, a student in engineering, is the son of Earl L. Yates, 5517 Nottingham, St. Louis. He is a defensive linebacker on the football squad and a fine prospect for next year's football team.

NSF Grant Awarded Civil Department

The National Science Foundation has awarded a grant of \$12,600 for undergraduate research programs to the department of civil engineering at UMR.

Six undergraduate civil engineering students will participate in special research projects in the areas of sanitary engineering, fluid mechanics and materials engineering.

In addition to a stipend for the participants, the grant provides for the purchase of some equipment and partial payment of salaries for faculty members supervising the research.

Three investigations will be undertaken; "Photochemical Action of Solar Ultraviolet Radiation of Chlorine Derivatives in Water;" "Effect of Changes in Ambient Rheological Properties on Fluid-Solid Transport" and "Evaluation of Materials and Shapes for Dry Wall Construction of Radiation Shielding."

The undergraduate research participation program of the National Science Foundation is designed to provide increased opportunity for the scholarly development of outstanding undergra-

duates with a view to raising their individual competences. These programs have proven effective in stimulating and encouraging the participants to continue their education at the graduate level. Over 60 per cent of those participating have gone on to do graduate work or plan to enter the graduate school. Participants are chosen from the junior and senior classes on the basis of active interest in research, creative ability, imagination and academic accomplishments.

Award to S.A.E. Branch

The Bendix Corporation has awarded for the second consecutive year, the honor of Outstanding Student Branch of the Society of Automotive Engineers to the UMR Chapter.

The University chapter is the largest in the nation with a total membership of 279, and is one of the four chapters in its category to receive the award.

The award will be presented to J.F. Wooldridge, the student branch chairman, at a St. Louis Section meeting during the month of April.

The award was received on the basis of the report of the year's activities and future plans. Among the activities were various field trips; the annual Vehicle Safety Check, to be solely conducted by the student branch this year; the preparation of a series of 35 mm. slides to be used state-wide by the Missouri Highway Patrol in their adult driver education courses, and programs representing both large and small industries.

The student branch officers for this year are; James F. Wooldridge, Chairman; James E. Schnarr, vice-chairman; Timothy M. Handlan, secretary; and Edward L. Schmidt, treasurer, all mechanical engineering students. George R. Baumgartner, Assistant Professor of Mechanical Engineering, is the faculty advisor.

**WE NEED 3,000
CONTRIBUTORS TO THE
1965 FUNDS DRIVE**

Advisers for New Graduate Courses



Dr. Aaron Miles (left), chairman of the department of mechanical engineering, and Dr. Mailand Strunk, chairman of the department of chemical engineering, are the advisers for two new master's degree programs offered by the University of Missouri at Rolla at their St. Louis Graduate Resident Center. The new programs will lead to the M.S. in propulsion and space engineering.

Courses Added at St. Louis Center

The new UMR St. Louis Graduate Resident Center under the directorship of Dr. Anton Des. Brasunas are offering two new master's degree programs for the spring program. The new programs will lead to the M.S. in energy conversion engineering and the M.S. in propulsion and space engineering.

The new degree offerings are known as "area study" programs and several different departments at Rolla will cooperate in the support of these. At present, these programs are being offered only through the Graduate Resident Center.

The added programs bring to four the number of graduate degrees offered through the Center. Master's degrees may also be earned in metallurgical engineering and in engineering mechanics.

The Graduate Center which opened in September, 1964 is a joint effort of UMR and the Extension Division

of the University of Missouri System. There are 76 persons enrolled in the Spring semester, 53 of which are working toward the Ph. D. Degree. Classes are taught by Dr. Brasunas, faculty members from UMR and qualified teachers from St. Louis Industries.

Visiting Professor

Dr. Gerhard Derge, professor of metallurgical engineering at Carnegie Institute of Technology, has accepted the position of St. Joseph Lead Company Visiting Professor of Extractive Metallurgy at UMR.

St. Joseph Lead Co. is the nation's leading producer of lead, and one of the top three producers of zinc. The company has provided scholarships at the University of Missouri at Rolla for many years.

Dr. Derge, who is Jones and Laughlin Professor of Metallurgical Engineering at Carnegie Institute of Technology, is also editor of "Transactions" of the Metallurgical Society of the American Institute of Mining, Metallurgical and Petroleum Engineers.

Papers Presented for Physical Society

The American Physical Society meeting in Kansas City, March 23-27 was attended by Dr. Don C. Hopkins, Dr. Robert Gerson and Dr. Otto H. Hill of UMR.

Drs. Hopkins and Gerson presented a paper entitled "Dielectric and Piezoelectric Properties of Lead Titanate Zirconate Between 1 and 20 Degrees Kelvin." This research was performed during the summer of 1964 under the sponsorship of the UMR summer faculty research fellowship program. Physics students contributing to the research effort included Richard F. Mathews and Donald A. McClure.

Dr. Hill, who holds the physics chair in the Materials Research Center of UMR, presented a paper entitled "Soft X-Ray Dosimetry for Radiation Chemistry Studies of Hydrocarbons." This research was performed in part at the General Dynamics Corp. of Ft. Worth, Texas, under the sponsorship of the U.S. Air Force Weapons Laboratory. Dr. Hill has been serving the Nuclear Research and Development division of GD/FW as a consultant in radiation chemistry since he left the corporation to join the faculty of UMR in April of 1964.

Dr. Gerson also attended the annual meeting of the American Physical Society in New York on Jan. 27 to 30 at which time he presented a paper which he co-authored with a graduate student, William S. Denno. The paper was entitled, "Mossbauer Spectrometer, Using a Piezoelectric Bar in Resonant Oscillation." This research project was supported by the U.S. Atomic Energy Commission.

New Post for Terry Smith

Terry A. Smith was appointed assistant professor of economics and research coordinator at the University of Missouri at Rolla, effective February 1, 1965. He first joined the faculty of the University in January, 1963 as assistant director of research. In December, 1963 he was appointed assistant to the business officer.

A native of Salt Lake City, Utah,

MSM Alumnus

Prof. Smith received his B.S. in economics in 1960 at Utah State University and his M.S. in 1963 at the University of Utah. He was the recipient of a fellowship at that institution. Before coming to Rolla, he was research analyst at the Bureau of Economic and Business Research, University of Utah.

Professor Smith is a member of Phi Kappa Phi, national honor society and Sigma Chi social fraternity. He is also the author of several published articles.

Professor Smith lives with his wife, Sharie, and daughters, Taunie and Tamara, at 921B East 7th Street.

Alumni Meet in Chicago

Dr. D.S. Eppelsheimer gave a talk entitled "MSM, Past, Present and Future" before the Chicago Chapter of the American Society for Metals on January 11, 1965. About 100 metallurgists in the Greater Chicago Area were present at the meeting, a number of whom were MSM graduates.

A list of those attending follows: Don Zimmerman, '50; D. S. Gould, '51; Robert T. Sinnott, '47; Ronald L. Chatham, '62; Joe Bob Fox, D. H. Lee, '63; Kuldeep S. Chopra, '61; Vernon J. Pingel, '44; William Hawkins, '51; Ed Kucharski, '59; J. W. Howerston, '38; A.N. Copp, '62; C.H. Buermeyer, '52; C. F. Benner, '37.

The talk consisted of a letter from Chancellor Baker to the group outlining briefly the progress that was being made here at Rolla and our interest in having the graduates indicate to outstanding high school seniors the possibility of engineering training at Rolla. He described briefly some of the new buildings on the campus and also some of the newer developments that we have been making the Metallurgy Department. He urged them to join the Alumni Association, to attend homecomings and to participate actively in the centennial program which we are planning for 1970.

1965 FUNDS DRIVE
GOAL
3,000 CONTRIBUTORS
\$30,000

Publishes Paper

Earl F. Richards of UMR has recently published a paper entitled: "Constructing Liaponov Functions by Means of the Analog Computer," in IEEE Transactions on Education, Volume E-7 Une-September, 1964.

The author, an instructor in control systems and computers, has been a member of the faculty of the electrical engineering department, UMR, since 1958. Co-authors on the paper were C. F. Chen, Christian Brothers College and Chun Hse of Argonne National Laboratory, Argonne, Illinois. Research on the paper was under the auspices of the U.S. Atomic Energy Commission, and was carried out at Argonne National Laboratory, reactor engineering control section during the summer of 1963. Mr. Richards was employed as a research associate on this project.

The paper deals with Lure's method of constructing Liaponov Functions which are particularly adaptable to the determination of stability of nonlinear systems evolved from the study of the nonlinear characteristics of nuclear reactor systems.

Feingold Writes Books, Papers

Dr. Adolph Feingold, professor of mechanical engineering at UMR is the author of several papers which have been published recently in scientific journals or will be presented in the near future.

The most recent publication for Dr. Feingold is in the "Latest Technology in Oil and Gas Power" which was released in December. The book is the 1964 proceedings of the 36th conference of the Oil and Gas Power Division of the American Society of Mechanical Engineers, where the paper was originally presented last spring. Dr. Feingold's paper is entitled "Simulation of a Diesel Engine on a Digital Computer for the Purpose of Estimation of Head-Transfer Coefficient from the Working Medium to the Cylinder Walls."

A paper was also presented by Dr. Feingold at the International Automotive Engineering Congress and Exposition of the Society of Automotive Engineers in Detroit January 11 to 15. The paper, "Piston Heating in Diesel

Engines," was written by Leon Gross-Gronomski, senior lecturer, faculty of mechanical engineering, Technion, Israel Institute of Technology, Haifa. Dr. Feingold was co-investigator in the research when he was on the faculty there.

Another paper written by Dr. Feingold will appear soon in the proceedings of the Missouri Academy of Science. The paper, which was presented before the Academy last spring, is entitled "Mixing of Gases at the Same Original Pressure but Different Original Temperatures."

Dr. Feingold is the author of an article "Formula Gives Internal Energy of Diesel Working Medium" which was published in the April 1964 issue of the SAE Journal.

Dr. Feingold joined the faculty at UMR in September, 1963. A native of the U.S.S.R., Dr. Feingold received the Doctor of Naval Architecture and Mechanical Engineering degree at the University of Genoa, Italy, in 1953. He then joined the staff of the Technion, Israel Institute of Technology, Haifa, where he served in various capacities until 1963.

Dr. Feingold is a member of Pi Tau Sigma and Sigma Xi honor societies and is the author of many publications.

Award to Dr. Bosch

Dr. Wouter Bosch, professor of chemistry and graduate director of the University at Rolla, has received the 1964 Service Award from the St. Louis Coatings Society. The citation reads as follows: "For outstanding contributions to the technology and art of protective coatings in the specific field of education."

Dr. Bosch joined the faculty here in 1958. He has had extensive industrial paint experience and has taught academic and extra-curricular paint courses since 1947. Dr. Bosch is director of widely known short courses on paint and polymer chemistry which are held annually during the summer at UMR.

He is a graduate of the State University of Utrecht, The Netherlands, and the University of Minnesota.

Dr. Zakin to Direct Chemical Research

Dr. Jacques L. Zakin, associate professor of chemical engineering and the chemical engineering department of UMR are the recipients of three very generous grants to further research on turbulence in non-Newtonian fluids. Dr. Zakin is in charge of the project.

Last year the research was begun on a \$20,000 grant from the Petroleum Research Fund of the American Chemical Society.

Recently, the Socony Mobil Oil Co., Inc. gave \$3,000 for the purchase of anemometer equipment for use in research on the above project.

The National Aeronautics and Space Administration awarded a grant of \$34,696 for a three year program to study the fundamental nature of turbulence in both drag-reducing and non-drag-reducing fluids and to study the polymer solution characteristics which promote drag-reduction.

"Drag-reduction" is the name of the phenomenon by which energy dissipation in turbulent flow is reduced. Reductions in pumping pressure losses and savings in energy requirements of 50 to 80% have been reported for solutions when small amounts of certain effective polymer additives are present. Ultimately it is hoped that it may be possible to predict which polymers will be effective in any given fluid, and to

develop methods of obtaining engineering estimates of pressure losses in pipe flow. The research may also provide information useful in developing methods for reducing drag on objects, such as ships moving through fluids.

The NASA and the Petroleum Research Fund grants each support one graduate student and four other graduate students are working on related projects under other sponsorship.

A research assistantship is available on this project at this time for a recent graduate who is interested in this field. The starting salary is \$3,000 per eleven-month year and is renewable at a higher rate. This stipend is tax-free for candidates for an advanced degree.

Dr. Zakin joined the UMR Faculty in 1962. Before this appointment he was a supervising technologist in the Research Department of Socony Mobil Oil Co. A native New Yorker, he received a Bachelor of Chemical Engineering degree at Cornell University in 1949, his M.S. in Chemical Engineering in 1950 at Columbia University and the Doctor of Engineering Science degree at New York University in 1959.

Dr. Zakin is a member of numerous honorary and professional societies and the author of several research publications and patents.

New Scholarship

The American Zinc, Lead and Smelting Company has newly established a new scholarship program to be known as the Howard I. Young Scholarship, and is valued at from \$1,150 to \$1,500 annually.

Howard Young, Honorary Chairman of the Board of American Zinc, Lead and Smelting Company, is an alumnus of UMR and in 1939 was awarded the honorary degree of Doctor of Engineering. Dr. Young, who served as President of American Zinc, Lead and Smelting for many years before attaining his present position, has long been a benefactor of this University and its Alumni Association. Therefore, the company's establishment of the scholar-

ship in his name seems particularly fitting.

The American Zinc, Lead and Smelting Company whose home office is in the Paul Brown Building, St. Louis, Missouri, has eight subsidiaries with plants and offices throughout the country. Applicants for the scholarship must be entering freshmen and sons of employees of the company or its subsidiaries and must be candidates for a degree at the University of Missouri at Rolla in one of the following fields: Mining Engineering (except Petroleum), Metallurgical Engineering (except petroleum), Electrical Engineering, or Mechanical Engineering.

The scholarship will cover fees, out-of-state tuition if required, room, board and an allowance for books. It will

be renewed each year for the four-year period of the student's undergraduate work subject to satisfactory academic progress.

Selection of the recipient will be made by the University and it is expected that announcement of the recipient for the 1965-66 school year will be made the latter part of May. Application forms for the scholarship may be secured.

Band to Play at N.Y. Fair

The UMR ROTC Band is slated to present six concerts at the World's Fair in late April and early May. They have begun a series of fund raising activities to help with the costs of sending the band to New York.

On April 22, the band will present their "World's Fair Concert" in the Student Union Building. The program for the concert will consist of a 30-50 page program-book on the history of the bands at UMR.

The funds for the trip are being raised through a variety of sources. The ROTC has obtained housing for the band while in New York, some student council funds were voted the band last year for travel, and the band members themselves are bearing the bulk of the costs.

The book on the history of the band will contain space for advertisements, and it is hoped that the balance of the money needed can be raised from this source. Advertisements are being sold to merchants, faculty, campus organizations and any persons or groups who are willing to help the band. The band will travel with signs identifying the school and the town, which will advertise the school and the area.

In addition, stories on the "all engineers" band will be prepared for various engineering journals. UMR is one of the few institutions in the nation with large musical groups composed of all engineering students.

The "Drifters," organized in 1960 is one of the four bands in the UMR-ROTC programs and consists of 17 members.

They are designated as a Stage-Band and present special shows to various high school assemblies in cities about the area. The band is patterned after the

big bands of the 30's which played music of the Glenn Miller variety, revived in the past few years with the new "modern" sounds. Colleges and high schools throughout the nation are reviving this type of musical group and have found a responsive audience.

Farber Gets MIAA Basketball Award

The MIAA Conference at the end of each basketball season selects from the conference an athlete for the sportsmanship award. The recipient of the award receives a jeweled wrist watch. The officials, sportswriters and coaches make the selection.

The winner of this year's award was Ralph Farber, senior guard, from UMR. The selection is based on attitude and to some degree ability. Farber, 5'11" guard, helped lead his team to one of the most successful seasons in the history of the school. Ralph scored a total of 401 points for an average of 17.5 per game average. Coach Billy Key stated, "Ralph was not only an excellent shooter but his unselfish attitude made him a fine team player. I feel very privileged to have been his coach. He is an outstanding man in every way and I am sure I speak for the entire University when I say we all are very proud of him."

Ralph was placed on the second team all-conference selection which again speaks well of his ability.

Ralph will receive his degree in mechanical engineering this spring.

Heads Geophysical Unit

Dr. Hughes Zenor, professor of geophysical engineering, has been appointed director of the Geophysical Observatory on the UMR campus. Here replaces Dr. George B. Clark, who has acted in capacity of director, and is now devoting full time to the Rock Mechanics Research Group of which he is director, although he will still be active in the operation of the observatory.

Plans for the development of geophysical activities at the Rolla campus include cooperation in the operation of stations at strategic points in the Mid-

west and expansion of measurement facilities. Eventually it will be possible for the seismic stations to record earth records to be digitized so that the interpretation may be done by computer.

The Rolla seismograph station, located in a cave near Newburg, was established here in 1961 under the direction of Dr. Clark and in cooperation with the St. Louis University as part of a government-sponsored project for the detection of nuclear explosions. The station, the first in the University's proposed network is equipped with six extremely sensitive instruments, three long period and three short period, which detect vibrations in the earth's crust and the movement of the earth itself. All major earthquakes and large scale nuclear explosions since the completion of the station have been recorded.

Dr. Zenor joined the MSM faculty in September, 1960. A native Oklahoman, he received his A.B. from Oklahoma City University, his M.S. degree in physics from the University of Oklahoma and his Ph.D. degree in physics from Rice Institute, Houston, Texas.

Dr. Zenor has spent many years in geophysical research in industry and in the academic field. Prior to coming to Rolla, he was associate professor of geophysics and head of the Department of Geophysics at the University of Tulsa for five years.

ENGINEERS WANTED

For information concerning the positions listed below write or contact Assistant Dean Leon Hershkowitz, UMR, Rolla, Mo.

Engineers - Electrical, Chemical, Mechanical, Architectural and Aeronautical, also Business Accounting. Experience preferable. Consulting firm for the Atomic Energy Commission. Main scope of work lies in Research and Development, with project management. Refer File No. 1.

Mechanical Engineer - Design, heavy gauge sheet metal, light structural and normal mechanical components that comprise the various styles of air pollution and dust control devices. Should be fairly strong in basic industrial equip-

ment design and have reasonable experience on the board. For Assistant to Dept. Head. Maryland Firm. Refer File No. 2.

Michigan firm needs Civil or Mech. Engineers - accent on value analysis, estimating coordination and follow up of industrial construction project (2) Chem. Eng. - Control, develop and correct painting, printing and silk screen processes and related equipment. Man with potential to become supervisor in mfg. development, paint and silk screen area. (3) Mech. Eng. - Plastics Tool Eng. to determine molding and finishing tooling required and equipment to be used in plastic parts production. Experience in molding methods and equipment necessary. (4) Physics or Materials Science. - Investigate measurement of physical properties of ceramic, metal and organic materials and devise standard methods of measuring consistently and efficiently. (5) Chem. or Metall. Engr. - Write process specifications, purchase equipment, trouble shoot and instruct in operation of equipment and processing. Needs aggressiveness and technical knowledge. (6) Math and Physics - Jr. Quality Control Engr. Analyze critical quality items. Process studies to aid tooling and mfg. Investigate field data. Refer File No. 3.

Mechanical Engineers - Mfg. automotive parts. Backgrounds in stampings, forgings or small machined parts preferred. St. Louis Firm. Refer File No. 5.

Candidates whose specialization over the past ten years has included general *petro-chemical design* with specialized experience in mechanical equipment, instrumentation, piping stress analysis, pressure vessels. San Francisco Corporation. Ref. File No. 6.

Dallas firm seeks engineers (Petroleum, mechanical, chemical, geological, civil) with some well drilling experience. Interest in improvement of present drilling techniques and tools. Inquisitive mind. Refer File No. 7.

Salt Mill Production Manager - California. Production scheduling, quality control, shipping and receiving, purchasing, personnel management. Refer File No. 8.

Mining, chemical or mechanical engineers but a heavy chemistry major

or other engineering degree will qualify. Research & development of the plant level, routine plant laboratory work and training for sales service. Process diatomaceous earth absorbents, filter aids, paper fillers, catalysts, etc. Nevada. Refer File No. 9.

Mechanical, metallurgy, or chemistry graduate for Missouri Fiber Plant. Should be able to handle a varied type of assignments, machine development, plant layout and general maintenance problems. Refer File No. 10.

Large cereal manufacturer needs Engineers - Mechanical, Chemical, General, E.E., with 5 years experience. For structural, cereal process, food process layout, associate process, packaging and shipping engineers. Two Industrial Engineers - may be new graduate or 2-3 years industrial engineering experience-midwest plant locations. Refer File No. 11.

Large Glass Technical Center, midwest, has various openings for both experienced and inexperienced engineers, chemists, physicists. Salaries \$6,000-15,000. Include Ceramics E., Chem E., Mech. E., Electronics E., Eng. Physics. Refer File No. 12.

Foundry Metallurgist or Metallurgical Engineer, experienced. Travel 50% of time. Capable of analyzing customer inquiries within the Sales Department, to select and recommend to the customer the optimum equipment, to meet the production, quality and metallurgical requirements of the particular operation; able to write technical, metallurgical and mechanical proposals and assist in presentation of these customer. Write technical articles and present to foundry groups. Upper Midwest location. Refer File No. 14.

Chemical engineers, electrical engineers and chemists - Chemical company wants both experienced and inexperienced personnel. New Jersey Area. For work in coatings, plastic additives, new products, organometallic; a formulator, a pilot plant developer. Refer File No. 15.

Chemical engineering graduate, new or recent with paint background or one who can be sent to paint suppliers to receive training. To operate quality control department. St. Louis firm, producers of pre-coated steel and Aluminum. Refer File No. 16.

Application Engineer-Time controls

BIRTHS

Mr. and Mrs. James Gormley '62, announce the birth of their first child September 18, 1964. She was named Gail Alice. Jim has recently been transferred to the Industrial Engineering

and direct current meters. Bachelors in M. E. satisfactory, E. E. preferred. Also process engineer for plastic molding, for M. E. Several years experience, preferred. Salary commensurate with education, experience and past performance. Midwest. Refer File No. 17.

Design Engineer, prefer Mechanical, would consider other engineering fields adaptable to job requirements. Salary excellent, based on qualifications. For copper mining operations. Design of conveyors, crushers, and grinders, and planning and designing steel and concrete construction. Location - northwest. Refer File No. 19.

B.S. or M.S. in Met. Eng. and up to 5 years development experience. Location, Indiana. For flame-plating development laboratory, concerned with the improvement of existing processes and development of new processes, equipment and materials in the metal coating field. Refer File No. 19.

Industrial Sales Representative, B. S. in Business Administration or Liberal Arts and preference for someone with a Chemistry background. Industrial Sales Rep. engage in selling starches, syrups, dextrans and related food products to the candy, baking, dairy, pharmaceutical, chemical, brewing, canning, textile and similar industries. Opportunities in most parts of U.S. Salary Good. Refer File No. 20.

Chemical, Mechanical, Project, Maintenance, Inspection Engineer for large industrial chemical company, midwest. Prefer experience two to five years. Refer File No. 21.

I.E., M.E., E.E. and Business Administration (Accounting Majors). Large electrical manufacturing concern. Has 30 plants in 15 states, major locations in midwest. All positions offer on-the-job-training, engineering, manufacturing, sales, and accounting. Refer File No. 22.

Department from the Plant Engineering Department at the Clyde Division of the Whirlpool Corporation. He is in their Manufacturing Engineering Management Training Program. The Gormleys live at 1319 Cherry Street Fremont, Ohio.

Mr. and Mrs. Leo F. Tayloe '60 have announced the birth of a son on March 8, 1964. Rex Leo Tayloe is their first child. Leo is the owner of Center Line Inc. in Bedford, Indiana and resides at RR 1, Mitchell, Indiana.

Mr. and Mrs. Makoto J. Kawaguchi '45, announce the birth of their son, Richard. They not only have a new son, but also a new home and a new position with Friden, Inc. Their new address is 7056 Saroni Drive, Oakland, California.

Mr. and Mrs. Anthony DelPrete informed the Alumni Office of the birth of their daughter, Elaine, born May 16, 1964. Anthony is an instructor at the State University College at Oswego, New York. They live at 2 Mohawk Terrace, Oswego, New York.

Mr. and Mrs. George D. Alexander '63 have announced the birth of a son Kenneth Douglas, December 2, 1964. George works for Sandia Corporation and resides at 202 Dartmouth, SE, Albuquerque, New Mexico.

Mr. and Mrs. Donald E. Morton '62 announce the birth of their second daughter, Deborah, born October 20, 1964. Donald and Elaine's older daughter is Karen, 19 months. Donald is working toward a Master's Degree in Polymer Chemistry at Akron University. The Mortons live at 479 Zahn Drive, Akron, Ohio.

Mr. and Mrs. Anibal J. daSilva announce the birth of their sixth child. Daniel daSilva was born while Col. Glenn was in orbit. The daSilvas have a total of 4 girls and 2 boys. Anibal is an Aerospace Technologist with NASA Manned Spacecraft Center. They reside at 7623 Greendowns, Houston, Texas.

Mr. and Mrs. William G. VanBramer '51 had a second child in 1964, a girl named Lisa Ann. They also have a 5-year-old boy named George. They reside at 320 Taylor Ave., Endicott, New York and would be glad to see any old friends.

Mr. and Mrs. John Burmeister '59, have informed the Alumni Office of the

birth of a daughter, Claire Elaine, born Sept. 30, 1964. They live at 2A Wasp Road, China Lake, California.

Mr. and Mrs. Stanley E. Rand '62 announced that their first child born October 28, 1964, was a girl named Barbara Lyn. Stanley is employed with Traux-Traer Coal Co. They reside at 300 20th St., NW, Minot, North Dakota.

Mr. and Mrs. Stanley Waxman '59, announce a new arrival, Deborah Helene, born November 27, 1964 weighing 6 lbs. 13 oz. Now their older daughter, Madelyn, 2 1/2 years has a sister and all are very happy. The Waxmans live at 114 Franklin Street, Morristown, New Jersey.

Mr. and Mrs. Donald W. McCullah '62 announced the birth of a daughter, Sara Ann, born November 15, 1964. Their address is 1135 Saxe Avenue, Cuyahoga Falls, Ohio.

Mr. and Mrs. Donald C. Herr '62 announce the birth of their second daughter, Lori Lynn, born on May 21, 1964. Donald works for Collins Radio Co., and they live at 560 W. 9th Ave., Marion, Iowa.

Mr. and Mrs. William S. Harper '51 has informed our office of the birth of their fifth child, Katarine Jane, born November 25, 1964. They live at 38 Mahogany Drive, Williamsville 21, New York.

Mr. and Mrs. Reinhart C. Gauerke '48 announce the birth of a son born April 15, 1964. They named him Eric Reinhart. The Gauerkes live at 224 Gen. Arnold, NE, Albuquerque, New Mexico where Reinhart is employed with Sandia Corporation.

Mr. and Mrs. Ralph C. Maxton '60 announce the birth of their first child born December 17, 1964. The 7-lb., 15-oz. boy was named Daniel William. Ralph is an associate engineer with Hydrodynamics Research Center. Their address is 1503 King Avenue, Columbus, Ohio.

Mr. and Mrs. John F. Rasche '58 announce the birth of their third child, David William, June 5, 1964. David has a 3-year-old sister, Kay, and a 5-year-old brother, Jeff. They live in Decatur, Illinois, where John is working for A. E. Staley Manufacturing Company. Their address is 2302 N. Wilder, Decatur.

Mr. and Mrs. Don Waldecker '61

announce the birth of their first child, Brian, October 2, 1964. Don has completed requirements for the MSEE degree from Syracuse University in September, 1964. Don is now Senior Associate Engineer for IBM in Endicott, New York. The Waldeckers address is 520 Woodford Ave., Endicott.

A baby boy, Daniel Joseph, was born to Ruth and Lou Rephlo '60 October 27, 1964 in St. Louis, Mo. Louis is Sales Supervisor for the American Telephone and Telegraph Co. in St. Louis.

Jack '63 and Helen Crawford announce that there are now three dependents in the Crawford family since the arrival of Jack, Jr. January 18, 1965, weighing a "lively" 7 lb. 6 oz. Papa Jack is now an Engineer in Department 952, of IBM in Rochester, Minnesota. You may send congratulations to the elated parents at 105 Parkside Trailer Court, Rochester, Minn.

Brenda and Gary W. Tolen '63 have produced a lovely daughter, Katherine Suzanne who was born on March 31, 1964. Gary is Machine Designer for Saginaw Steering Gear Division of G.M.C. Their home address is 2207 State Street, Saginaw, Michigan.

MARRIAGES

Hudek-Vaccare

Robert J. Hudek '63 and Miss Mary Sue Vaccare, of University City, Missouri, were married November 26, 1964 at the Christ The King Parish Church in St. Louis, Missouri. Bob is with the Bridges and Buildings Division of the City of St. Louis. The newly-weds' new home is at 5100A Pennsylvania, St. Louis, Missouri.

Kriege-Walker

Edward A. Kriege '63 and Miss Karen Rae Walker, of Belleville, Illinois, were married November 7, 1964. The bride is a member of the class of 1963, St. Louis University, receiving a B.S. degree in Medical Technology. The groom is Assistant Plant Engineer, Moog Industries, Inc. Their residence address is 4604 Shrewsbury, Apt. A, St. Louis, Missouri.

Siebels-Shansby

James E. Siebels '62 and Miss Carol Shansby of Seattle, Washington were

married April 18, 1964 at the First Southern Baptist Church of Glendale, California. They reside at 11811 S. Old River School Road, Downey, California.

Weiss-Nifong

Nicholas M. Weiss '56 and Miss Jean Nifong were married in September, 1964. Mr. Weiss is a chemist with Rexall Drug, and they live at 5324 Walsh, St. Louis 9, Missouri.

Schumacher-Payne

Carl R. Schumacher '59 and Miss Ramona Ann Payne of Oklahoma City were married November 25, 1964. The bride is now teaching in St. Louis and the groom is a Civil Engineer with the City of St. Louis Water Division. They reside at 4544 Flad Ave., St. Louis, Missouri.

Sharf-Handelsman

Joel S. Sharf '59 and Miss Linda Handelsman of Lawrence, New York were married August 11, 1964. Joel is employed by Dothan Manufacturing Co. Their address is 800 West End Ave., Apt. 13E, New York, New York.

Bitzer-Haskin

David B. Bitzer '59 and Miss Virginia Haskin of Victorville, California were married July 3, 1964. David is a Mining Engineer for Riverside Cement Co., Oro Grande, California. The address of the happy couple is P. O. Box 434, Oro Grande.

DEATHS

John R. Maher '16

John Ralph Maher '16, died February 12, 1964.

Preston K. Horner '06

Preston K. Horner '06, mining engineer who was associated with British and Belgian mining interests in Africa, died at his home, 7514 Byron Place, Clayton, Missouri, December 4, 1964. He had been in ill health since 1956 as a result of several strokes. After graduation, he worked for a mining company in Nevada before going to Katanga, in the Belgian Congo, in 1909 as a construction engineer for the Belgian mining concern Union Miniere. He became managing director for Union Miniere and remained in Katanga until 1921, at which time he moved to Lon-

don as a consulting engineer for British mining companies. As a consultant, he was responsible for developing copper mines in northern Rhodesia. He became an independent consulting engineer in 1931, and in 1942, was appointed Senior Civilian Engineer for the U.S. Army in London. After World War II, he resumed his business in London and operated until 1948, at which time he returned to St. Louis, Missouri, where he did consulting before his retirement in 1950. He is survived by his widow, Mrs. Sheila Wilson Horner, whom he married in London after his first wife died in 1938; three daughters, Mrs. Virginia Allen, Mrs. Gene Mayfield and Mrs. Theodore Lucks Jr., all of St. Louis; five grandchildren and two great-grandchildren.

Billy Gordon Beams '57

Billy Gordon Beams '57, died October 17, 1964 at the St. Elizabeth's Hospital, Belleville, Illinois. He was with Texaco, Inc., from the time of his graduation. He is survived by his widow and a daughter who live on Route No. 4, Salem, Illinois.

Clifford R. Wilfley '05

Clifford R. Wilfley '05, age 82 years, died December 7, 1964. A native of Maryville, Missouri, after receiving his degree at MSM in mining engineering, Mr. Wilfley employed by the Virginia and Mexico Mine and Smelter Co., Hostotipaquillo, Mexico. In 1913, he became Manager, Barstow Mine, Ouray, Colorado and from 1913 to 1923 he was a mine operator, leaser, consulting engineer in Ouray. He married Helen Scott, of Ouray, April 28, 1915. From 1923 to 1925 he was an engineer with Denver, Colorado, Municipal Water Works. Since 1925 to the time of his death he was a consulting mining engineer in Denver. He is survived by his widow and daughter, Margaret, who reside at 2233 Grape Street, Denver.

Earle N. Murphy '20

Earl Nelson "Pat" Murphy '20, died at his home in Keosauqua, Iowa, November 27, 1964, age 71 years. He will be remembered as the small but mighty distance runner on the track team where he earned his letter. He was a member of Lambda Chi Alpha fratern-

nity, an assistant in the Athletic Department, belonged to other campus societies. He was a 1st lieutenant in World War I. After graduation he was employed as a geologist for R. A. Josey and Atlantic Oil and Refining Company. He left the oil industry in 1933 for his farm in Iowa. There nearly 30 years, in addition to operating his farm, he built many bridges, buildings, and miles of roads as an engineer working with the W.P.A. Program. Later he became Farm Security Administration Administrator for his area, which position he held until his retirement in 1962. Pat was a humanitarian; long time American Legion service officer; active in welfare organizations and the Presbyterian Church. He was one of the founders and trustees of the Van Buren County Memorial Hospital in Keosauqua Commercial Club's Outstanding Citizen Award. He is survived by his widow, Blanche, and a sister, Mrs. Margaret Nair of Vainita, Oklahoma.

Walter F. Siegmund '10

Col. Walter F. Siegmund '10, age 77, retired Olin Industries executive, died December 12, 1964, at his home in San Antonio, Texas. Col. Siegmund was General Sales Manager for Olin from 1932 until his retirement in 1952. He was recalled to active duty in World War II with the Air Force and was awarded the Army Commendation Ribbon and Medal with Three Oak Leaf Clusters for outstanding service. His military service included service on the Mexican border in 1916 and in World War I in France. He was a member of the Pi Kappa Alpha fraternity. He is survived by his widow Mrs. Virginia Maughs Siegmund and three daughters.

Lawrence T. Griglione '63

Lawrence T. Griglione '63, died November 20, 1964 as the result of a car-truck accident. He was living at South Wilmington, Illinois at the time of his death.

B. D. Patel '64

Babubhai D. Patel '64 was killed in an auto accident at Gillespie, Illinois, January 1, 1965.

Paul J. Drewelow '59

Paul J. Drewelow '59. The Alumni Office has been advised of his death but no particulars were given.

Alumni Personals

1912

Edward D. Lynton and wife Gertrude have completed their tour of the "Land Down Under" and are now planning another leaving in June for the Mediterranean returning via Trieste, France and England. In Algiers they plan to visit with Dick and Dottie Prough '38. All this trip is by ship and they will be back to home base, which is still 422 Beloit Avenue, Berkeley, California, in September.

1918

A. Frank Golick who has been for many years Vice President of Sales and Sales Engineering for LaSalle Steel Company, is soon to be retired but will be retained as a part time consultant.

1920

Gerald E. Ebmeyer is a Geologist with the S. D. Jarvis Company. He has been with Jarvis and their associated companies for over 29 years. They have oil production in Illinois, Indiana and Kentucky. Mr. Ebmeyer lives at 1518 Howard Street, Evansville, Indiana.

George Burnet retired January 31, 1961 as structural engineer from Hq. TAC, Langley Air Force Base, Virginia. Mr. Burnet resides at 7307-C River Drive, Newport News, Virginia.

1922

Thomas G. Weir will retire this year after 27 years with Joy Manufacturing Co. He is now their office manager in Los Angeles, California. He residence address is 1425 Rancho Road, Arcadia, California.

1923

Barbour Hamilton Moore has just retired and moved from Hawaii to Tennessee February 1. His Tennessee address is 1701 Crestwood Drive, Chattanooga.

Raymond E. Murphy, Professor of Geography and Editor of *Economic Geography*, has a new book in press with McGraw-Hill Book Co. entitled *The American City: An Urban Geography*. It is to be out late this fall. Professor Murphy is associated with the Graduate School of Geography of Clark University, Worcester, Mass.

MSM Alumnus

1925

Thomas E. Eagan retired from the Cooper-Bessmer Corporation last March and is in the market for some consulting work on materials. He lives at 515 Woodland Avenue, Grove City, Pennsylvania.

1927

R. S. Douglas has been named manager of the Odessa and Cinizi, New Mexico refineries of Shell Oil Company. Prior to the new assignment he was manager of the company's refinery at Martinez, California for four years. He has been employed by Shell since his graduation in 1927, holding positions at Wood River, Illinois, St. Louis, Houston and in the New York head office of the company's manufacturing engineering department.

1928

Harold R. Kilpatrick was recently appointed Vice President and Vice President-Sales of the Laclede Steel Com-



Harold R. Kilpatrick

pany. This appointment is the climax of twenty-seven years of service to Laclede Steel Co. Mr. Kilpatrick joined Laclede upon his graduation from MSM and has been successively salesman, District Sales Manager, St. Louis, Manager of Sales, Merchant Products and General Manager of Sales in 1952, which position he held until his recent promotion.

Charles A. Freeman, after thirty-seven years involvement in various phases of refractories manufacturing and sales has decided to become disassociated with current activity in the industry and is

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now what might be regarded as a Junior Senior Citizen and enjoying it and finding a haven at 5 Via Delizia, Hillsborough, California.

1929

Charles H. Dresbach retired May, 1964 from Gulf Oil Corporation, as Foreign Manager in various countries. He was with Gulf for 32 years, and 20 years of foreign service. Now he is consulting on petroleum exploration and operations. Charles resides at 236 Brooklake Road, Florham Park, New Jersey.

Orville W. Morris is Combustion Engineer with Armco Steel Corporation, Ashland, Kentucky. He advised us that his son, George has a degree in Chemical Engineering and is now studying Patent Law at George Washington University, Washington D. C. He is employed at U.S. Patent Office.

1932

John A. Pollack has transferred from the Office of Manned Space Flight, National Aero Space Administration, to the General Service Administration, Region 3. He is Construction Manager, Public Building Construction at 7th and D Streets, S.W., Washington, D.C. He is currently living at 1309 Singleton Circle, Fairfax, Virginia.

1937

Walter T. Jones has sold Rio Grande Steel Products for a sum in excess of \$1,500,000. Mr. Jones is retired, but is doing some consulting work in corporate management. He lives at 627 Sierra Drive SE, Albuquerque, New Mexico.

1938

Charles L. Clayton wishes to inform his old friends and classmates that the old Baysinger-Clayton family home was sold and it is now the site of the new Post Office building in Rolla. Mr. Clayton is Vice-President of Clayton Savings and Loan Association and lives at No. 1 Forest Hill Road, Hannibal, Mo.

John A. Short retired from the U.S.

Department of Agriculture in November, 1964 where he has been the River Basin Representative for many years.

1940

Paul F. Ross will retire from the USAF January 31, 1965 after 25 years of service. His future is unknown at this time. Paul resides at 7 Hillcrest Road, Bedford, Mass.

1941

James R. Roux, owner of Roux Engineering Sales Co. at Salt Lake City, Utah opened a new Roux Engineering office in Tucson, Arizona, Jan. 1, 1965. Jim and his wife, Audrey spent two weeks in February with Warren and Peg Loveridge in Tucson. Warren is of the class of 1941, and is Jim's brother-in-law.

Donald H. Falkingham has recently been appointed as District Production Superintendent to Pan American Petroleum Corporation's newly established Louisiana Gulf Coast Division in New Orleans, La. Donald has a record of



Donald H. Falkingham

twenty-four years of service to Pan Am having joined them as a roustabout in 1941 in Wewoka, Oklahoma. He has held various engineering positions in Oklahoma, Kansas, Wyoming and Colorado. He was named district superintendent in Billings, Montana in 1962 and transferred to Casper, Wyoming in 1963.

1942

Lt. Col. Bailey W. Hager has received the Joint Service Commendation Medal which was presented to him at the U.S. Army Logistics Management



Lt. Col. Bailey W. Hagar, Chief of ALMC Computer Simulation Div., receives Joint Service Commendation Medal from Commandant, Col. Felix J. Gerace. With them is Mrs. Hagar.

Center, Ft. Lee, Virginia. This was the first presentation of this award at the Center for distinguished performance from July 1962 to June 1964 with the military Assistance Advisory Group, Republic of China. Colonel Hager is chief of the Computer Simulation Division at the Center.

1943

O. L. Meyer has recently returned to his former position as Director of Engineering and Sanitation Division of DuPage County Health Department. The consulting firm of Webster, Meyer and Associates was dissolved January 1, 1965 and is continuing as Webster & Associates.

1944

Dave A. Wicker has been named to the newly-created position of regional manager for International Operations in Latin America for Koppers International Operations. In his new position, Mr. Wicker will be responsible for the development, guidance and

direction of the profitable operations and growth of Koppers business in South America. Mr. Wickers joined Koppers in 1946 and worked in various engineering and supervisory capacities in the former Chemical Division. He was instrumental in the formation of the International Division and was assigned to duties within that division in 1956. In October of that year he went to Argentina to represent Koppers in the establishment of a petrochemical complex, now known as Industrias Petroquimicas Argentinas Koppers S.A. Currently, Mr. Wickers is Vice President and Director of Industrias Petroquimicas Argentinas Koppers S.A.; a vice president and director of Koppers International, C.A.; and a director of Koppers International Company; and a director in various other Koppers subsidiaries in Argentina, Chile and Uruguay. In his new position, Mr. Wicker will continue to maintain residence in Buenos Aires, Argentina.

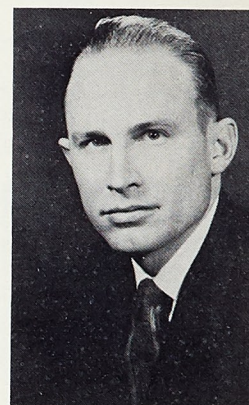
Dr. Ronald L. Carmichael has just returned from six weeks in Turkey where he was one of a 5-man team

from Battelle Memorial Institute studying present and future requirements for electric power. The study was under contract to A.I.D. to help evaluate Keban Dam Project.

William A. Hubbard has accepted a position with Pemco Division of the Glidden Company on December 28, 1964, and will be moving residence to Baltimore in early 1965.

1946

T. D. Daniels has been named Marketing Manager for General Electric's Insulating Materials Department. He will be responsible for sales, market research, product planning, application development, marketing administration, and advertising and sales promotion for the Schenectady-based department. Mr. Daniels joined General Electric after



T. D. Daniels

graduation and from mid-1948 until 1956, he served as Sales Engineering in the Company's Los Angeles office, first for the Chemical Materials Department and later for the Silicone Products Department. He was Sales Development Specialist and then Western District Sales Manager of the Silicone Products Department before joining the Insulating Materials Department in March, 1960 as Sales Manager. The Daniels' have three children: Tommy, 6; Elizabeth Ann, 5; and Diane Alyce, 2. The Daniels reside at 26 Patricia Lane, Rexford, New York.

1947

Richard E. Cole was transferred from Massena, New York in June to the Jones Mills Plant of Reynolds Metals Company in Hot Springs, Arkansas.

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Mr. Cole and his wife like it fine and hope to come to Homecoming next year. They reside at 311 Bellaire Drive, Hot Springs, Arkansas.

1948

Henry Whaley has been appointed general manager-operations for the Wabush Mines, Labrador, Canada. Wabush Mines is managed by Pickands Mather & Company, Duluth, Minnesota. Henry was formerly with a Pickands Mather operation as assistant works manager at Erie Mining Company, Hoyt Lakes, Minnesota. The Wabush Mines are scheduled to begin production early in 1965 of over 5,000,000 tons of iron ore concentrates annually. A Picklands Mather managed pelletizing facility for the Wabush Mines product, Arnaud Pellets, is under construction at Pointe Noire, Quebec, location of the loading dock for the Wabush ore. Whaley will head all activities pertaining to operations for Wabush Mines, Arnaud Pellets and related companies. His headquarters will be at Pointe Noire where the administrative offices of Wabush are being located.

Ray E. Pickett has accepted a position with Youngstown Sheet and Tube Company. He covers the entire country (28 district offices) coordinating the company's sales with Steel Service Centers. His residence is 4003 Windsor Road, Youngstown, Ohio.

1949

Robert C. Kelahan's son, Michael, who was born in Rolla while he was attending school in 1946, is now a freshman at Rolla. He intends also to major in Metallurgy. Mr. Kelahan is plant superintendent with the Canadian Electrolytic Zinc, Ltd. in Valleyfield, Quebec, Canada. His address is 62 Crescent St., Valleyfield.

Harold R. Hollmann and his family moved from Indianapolis to Pittsburgh in September as a result of a change in position and transferred to U.S. Steel Headquarters. His residence is 2410 E. Springwood Drive, Glenshaw, Pennsylvania.

John J. Mulligan completed two reports on antarctic coals and is now

February 1965

working on beryllium deposits in north-west Alaska. John is employed with the Bureau of Mines in Juneau, Alaska and his address is Box 335, Douglas, Alaska.

1950

Ernie V. Mason is Chief of Guidance Design, Missile and Space Systems in Pomona, California. At 896 Atlanta Court, Claremont, California, Ernie is Chief over four daughters and one wife; it's a Man's World?

1951

Melvin E. King, production superintendent at the Port Reading, New Jersey, plant of the Plastics Division, Koppers Company, has been named plant manager there. He joined Koppers in 1951 as a process engineer in the former Chemical Division, and four years later was promoted to general foreman of the division's development plant at Kobota, Pennsylvania. He became general foreman at Port Reading in 1957 and was promoted to production superintendent there in 1960.

Frank Birch is currently working at Keystone Mines out of Fairbanks, Alaska. His home address is 42 E. 27th Street, Spokane, Washington.

Dr. M. Dean Kleinkopf transferred to LaHabra, California as Geophysicist for Standard Oil Company of California. His address is 1832 Ranchero Way, Placentia, California.

Earl E. Jackson and Mrs. Jackson announce the birth of Brenda Fay, a girl born in October, 1964. This brings the total to four girls and one boy to this fine family. Earl is Chief Engineer of the Iron Mines Company of Venezuela in San Felix, Bolivar, Venezuela and may be communicated with in care of the company.

Henry A. Sheeley started working for Kaiser Aluminum and Chemical Corporation on August 3, 1964 as a supervisor in Ravenswood, West Virginia. He moved his family to Ravenswood in February, 1965 and they like their new location very much.

Edwin G. Elliott is testing rocket

engines for Rocketdyne in Canoga Park, California. His title is Test Engineer.

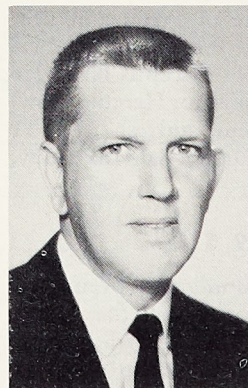
1952

H. Chalmers Kerr, Jr., has for the past eight months been working in the operations and systems analysis division at U.S. Navy Electronics Laboratory, carrying on studies of military data processing and communications systems; also contract monitoring similar studies. His residence is 5039 Milton Street, San Diego, California 92110.

Clyde Fink is employed with Schlumberger Well Surveying Corporation where he is field engineer. The Finks have three daughters, Joann, nine years, Tena, five years, and Carla, four years old. They live at 4804 Lindale, Wichita Falls, Texas.

Dan W. Martin returned from Athens, Greece in August, 1964 with his family after a four year stay. Dan was in Teheran, Iran in 1960 and Mykonos, Greece in 1956 with the Mykobar Mining Company. He is now in Houston, Texas and is Manager, Mines Section, Magnet Cove Barium Corporation, P. O. Box 6504, Houston, Texas 77005. His home address is 7603 Betty Jane, Houston, Texas 77055.

Frank T. Alvarado has returned to Nicaragua after a three months leave at home to start another two-year tour for the U.S. Bureau of Public Roads. He is Office Engineer for the Bureau in Managua, Nicaragua. His address is c/o U.S. Bureau of Public Roads, Apartado 273, Managua, Nicaragua.



Thomas F. Newkirk

Thomas F. Newkirk has been appointed division geologist for Pan American Petroleum Corporation's

Texas Gulf Coast division in Houston, Texas. Tom has been serving as Pan Am's district exploration superintendent in Tyler, Texas since 1962. Tom joined Pan Am in 1952 immediately following his graduation. He held various geological positions with the company from 1952 to 1957 when he became area geologist in Midland. In 1960 he was appointed to district geologist in Tyler, two years later he became district exploration superintendent there.

1953

Gerald J. LaBouff was promoted to Supervisor of the Lube and Specialty Supply Coordination and Supply Planning Department of the American Oil Company in April. Gerald lives at 16507 School, South Holland, Ill.

John R. Seipel has returned from a three-year assignment to the Iranian Oil Exploration and Producing Company. He is with The California Company, 1111 Tuland Avenue, New Orleans, Louisiana, and is now working on a large crude oil sales system in the delta of the Mississippi. He met Bob Holman, a January 1965 graduate, in Venice, Louisiana, recently. John's residence address is 3510 Lang Street, New Orleans.

John O. England has returned to the U.S. after eight and one-half years in Peru with Marcona Mining Company. He is currently employed as a Process Engineer with Kaiser Steel Corporation and may be reached c/o P.O. Box 558, Eagle Mountain, California 92241.

J. L. Knearey has recently been appointed to the Advanced Systems Department in charge of Product Marker Testing-Air Force Programs-Chemical Propulsion Division-Bacchus Plant. He is a technical specialist for Hercules Powder Co. His home address is 1731 Mountain View Drive, Salt Lake City, Utah 84106.

1954

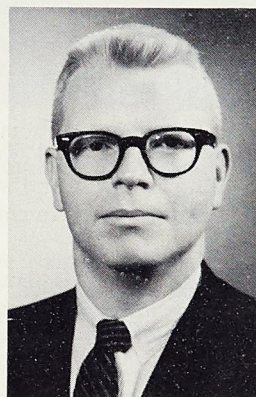
William H. Feldmiller has been transferred from the staff of the Chief, Branch of Oil and Gas Operations, U.S. Geological Survey, Washington, D.C., and promoted to the position of Assistant to the Regional Supervisor, Gulf Coast Region. The Gulf Coast Region of the Branch of Oil and Gas Operations

headquarters is in New Orleans and is charged with the supervision of oil and gas operations on federal leases in the Gulf of Mexico. Bill, his wife, Smokey, daughter, Kinberly, age 8, and son, Scott, age, 6, reside at 6315 Ackel Street, Apt. 102A, Metairie, Louisiana.

1955

Robert B. Oetting just completed requirements for Ph.D. in Mechanical Engineering at the University of Maryland, and will receive the degree at the end of the first semester, January 1965. Dr. Oetting is an Associate Professor at the University of Missouri at Rolla. His address is 802 W. 13th Street, Rolla.

P. O. Redel, Chief Designer, District 7, Missouri State Highway Department, has been advanced to District Engineer's Assistant in that district.



Scott T. Porter

Scott T. Porter has a new position with Eitel-McCullough, Inc. as manager of production engineering for the firm's Power Grid Division. Prior to his new position Scott was an Engineering Section Head in the Electronic Tube Division of Sperry Gyroscope Co., Great Neck, New York. He graduated in Physics at MSM, received his M.S. in Electrical Engineering at Columbia University and was a Ph.D. candidate at the Polytechnic Institute of Brooklyn. He has written papers in the field of high power microwave klystrons and is a member of the Institute of Electrical and Electronics Engineers, American Physical Society, American Management Association, Tau Beta Pi and Sigma Pi Sigma Physics Honor Society. The Porters, with their two children, reside at 2743 St. Giles Lane, Mountain View, California.

1956

Bruce R. Doe was a lecturer for "Careers in Geophysics" sponsored by the American Geophysical Union during the academic years of 1963-64 and 1964-65. The colleges where he lectured, were University of South Dakota, Iowa State College, University of New Mexico, University of Minnesota, and Riverside City College of California.

1957

Robert W. Andersen resigned from Armour Industrial Chemical Company to join Enjay Chemical Company, a division of Humble Oil. Robert lives at 529 Dawes Street, Libertyville, Illinois. In his new capacity, he is responsible for the sale of the Division's line of additives for fuels and lubricants, also, refinery processing aids to the Parmin's Division customers in the Midwest.

Robert W. Eshbaugh has been appointed Research and Development Manager for Filament Wound Products by Taylor Corporation, Valley Forge, Pennsylvania. In this newly-created position, Eshbaugh will be engaged in the R & D of filament and tape wound structures. Prior to joining his new company, Eshbaugh was at the U.S. Naval Ordnance Laboratory, Silver Spring, Maryland, where he had extensive experience in R & D in a like field.

1958

Eugene N. Zesch has been promoted to engineer in the T & D Development Department of Union Electric Company, St. Louis, Mo.

George E. Franke is newly Traffic Engineer for the Kentucky Department of Highways at Paducah, Kentucky. His responsibilities include direction of twelve western counties in Kentucky, designated as District No. 1.

James Hardy Garrett, Jr. is still in Benghazi, Libya, North Africa where he has been since August, 1963. He is working as a Drilling Engineer for Esso Libya. He and Mrs. Garrett are pleased to announce the birth of a new daughter, Lisa Ann who was born October 18, 1964. The Garretts have another

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daughter, Susan. The address is c/o Esso Libya, Box 281, Benghazi, Libya, North Africa.

1959

Hugh W. Wilson has started his fourth year at Union Electric's Taum Sauk Hydro plant. He was there originally for plant construction and now is working on improvements and construction of a residence and a substation. He is Construction Supervisor. The Wilson home address is 101 West Reynolds, Ironton, Missouri.

Charles C. Cassmeyer left the Boeing Company at Huntsville, Alabama to become associated with the McDonnell Aircraft Corporation in St. Louis, Mo. He is Senior Engineer in the Aerospace Division of McDonnell.

Robert J. Baker tells us that after thirty-one months in service (Berlin extension; served in Germany), and two and one-half years at the McDonnell Aircraft Corporation (including six months at Cape Kennedy) he has left McDonnell to accept a teaching fellowship at St. Louis University in the Physics Department. Mr. Baker has been at St. Louis U. since September, 1964. We wish Bob the best of luck in his new venture.

1960

Rugene E. Ray accepted the position of Assistant Export Sales Manager of Smith Engineering Works last August after spending a little over 4 years with Allis-Chalmers. Since both companies are in Milwaukee the Rays didn't have to move. Their address is still 5255 S. Brennan Drive, New Berlin, Wisconsin.

On February 1, 1965, Thomas G. Cassidy was promoted to the position of Division Engineer, Toledo Division, of the Kroger Company. He was previously Assistant Division Engineer for the St. Louis Division. He is responsible for new store construction, fixture installation, maintenance and equipment purchasing. The new residence address for the Cassadys is 4636 Secor Road, Toledo, Ohio. The Cassadys are to be

congratulated upon the birth of their second child, Charles Bryan, who was born December 1, 1964.

1961

Larry Farmer joined the Civil Engineering Department at UMR in January of this year. His address is c/o Department of Civil Engineering, UMR, Rolla, Missouri 65401.

David M. Lewis has accepted employment with Sverdrup and Parcel and Associates, Inc. and will be initially assigned to their mechanical section. He was formerly employed by Monsanto. David's address is Route No. 2, Box 42, Waterloo, Illinois.

Harvey J. Walker, Jr. returned from Korea and Vietnam November 4, 1964, and was promoted to captain. On November 21, 1964 he and his wife, Karen

Ann were married. Harvey will be going to U.S. Army Engineering School at Ft. Belvoir, Virginia until September, 1965.

Hung-Chi Chao completed his requirements for a Ph. D. at the University of Michigan, Ann Arbor, Michigan last summer and went to work in the fall for U.S. Steel as a Research Technologist at the Research Center in Monroeville, Pennsylvania. He has settled down with his family at 3722 Northern Pike Road, Monroeville, Pennsylvania 15146.

Captain Fred V. Huff has recently returned from three years in Europe. While there, he served in Germany and France and was on special projects in Turkey and Yugoslavia. He is presently Sanitary Engineer for Walter Reed Army Medical Center, Preventive Medicine De-

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Name

My new address is

My Company or Business Is

And My Title Is

Here's Some News for the MSM ALUMNUS:

partment, Washington, D.C. He can be communicated with at the above address.

Rene J. Leonard writes us from Guatemala, Central America to tell us that since last year he has been made Sales Manager of Owens Corning Fiberglass in Guatemala. In April he is moving to Miami, Florida to the Headquarters of the company as Sales Manager for Central America and the Caribbean Area.

1962

David F. Markel is a staff engineer with the Southwestern Bell Telephone Company, St. Louis, Mo. David is married to the former Geraldine Cottrell, of Dillard, Mo. The Markels have one child a daughter, Christina Denise, born November 24, 1964. They reside at 5816 A South Compton, St. Louis, Missouri.

S. Thomas Dunn is completing his doctoral thesis for his degree at Oklahoma State University. He is employed with the National Bureau of Standards in thermal radiation research. His address is 910 Laredo Road, Silver Spring, Maryland.

Paul D. Stigall will complete requirements for a Master's degree in Electrical Engineering in January and start working toward the Ph.D. at the University of Wyoming. Paul's address is University Station Box 3452, Laramie, Wyoming.

Gerald P. Rencehausen returned from Vietnam in May, and got discharged from the Army on January 26, 1965. He will return to the Ohio Bell Tele-

phone Company in Cleveland, Ohio as an Engineer.

John Kamman is an Apollo Flight Control Engineer with the NASA Manned Spacecraft Center in Houston, Texas. He received this position in November, 1964 and was engaged in flight control aspects of first Saturn IB mission with live Apollo Spacecraft payload (unmanned). His residence address is 501 Tanglewood Drive, Dickinson, Texas.

Keith E. Chapman became Chief, Materials Testing for the Bruce Williams Laboratories, Joplin, Mo., January 15, 1965. Mr. Chapman is married and has one child.

1963

Rudy M. Phillips received a M.S. degree in Chemical Engineering from Purdue U. in January, 1965. He is now process engineer in the Folger Coffee Division of Proctor & Gamble. He is residing at 6 Columbine Court, Apt. 1 Cincinnati, Ohio.

Allen K. Thoeni recently completed his service obligation with the U.S. Army and has joined the Bendix Corporation at the Kansas City Division.

Edward Benn received a M.S. in Nuclear Engineering in January from the University of Arizona and began working for American Atomics, Inc. as a Research Engineer on March 1, 1965. His address is American Atomics, Inc., 2255 Aviation Hwy., Tucson, Arizona.

Jerry A. Denzel received a M.S. in Chemical Engineering from North-

western University in September, 1964. He is now working for Ethyl Corporation in Baton Rouge as a Process Engineer. His home address is 4735 Government, Apt. 309, Baton Rouge, Louisiana.

Shafique Naiyer is enjoying living in Kansas City and working for the Missouri State Highway Commission as a Designer I. He tells us that people have been very helpful and friendly to him in his work. He plans to go to India for a visit sometime this year. His home is 3526 Forest, Kansas City, Missouri and he extends a welcome hand to any "Miner" who would care to visit him while in Kansas City.

Keith R. Honey is now living on Route No. 1, Iowa City, Iowa. He recently resigned his position at Naval Ordnance Testing Station, China Lake, California to obtain a Master's Degree in Physics and Astronomy at the University of Iowa. He is past president of the Astronomy Club at China Lake, California.

1964

Chester P. Gunn entered the service July 16, 1964, completed officers basic course at Ft. Belvoir, Virginia and Airborne Course at Ft. Benning, Georgia. He is now stationed in Kaiserslautern, Germany. His mailing address is 984th Engr. Company, Apo 227, New York, New York.

Elmer C. Hoepker is presently working on the Special Studies Section, a unit which serves design and construction by carrying on large research projects and developing computer programs. His assignment is to develop a Fortran program to compute bridge backwater. Elmer lives at 1408 Q Street, Apt. 3, Sacramento, California 95807.

Elbert V. Parkes is one of 49 on the two-year Ford College Graduate Program at the Ford Tractor Division of Ford Motor, Birmingham, Michigan. Elbert is married to the former Janet Pettit of Bucklin, Missouri.

1965

Robert Hellon has joined Monsanto Company's Inorganic Chemicals Division as an engineer at its Carondelet Plant, St. Louis, Mo.

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